IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: 1206
Examiner: Mr. Alan M. Siegel

In re **PATENT APPLICATION** of:

Applicants	:	Pascal PENNETREAU et al.	
Application No.:		08/285,015	
Filed	:	August 2, 1994	
For	:	PROCESS FOR THE PREPARATION OF 1-CHLORO-FLUOROETHANE AND/OR 1,1-DIFLUOROETHANE	**DECLARATION UNDER 37 CFR 1.132**
Attorney Docket:		SLVAY 0829	

Honorable Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Now comes Francine JANSSENS, a co-inventor of the above-identified application, who DECLARES:

That she is fully familiar with the invention described in the above-identified patent application and the Official Action dated November 17, 1994;

To further establish the very different reactivities of vinyl chloride and vinylidene chloride, she has conducted the following tests, using vinylidene chloride as starting material, in conditions similar to those of Examples 1 and 4 at pages 9 to 11 of the above-identified patent specification;

In the test carried out with vinyl chloride (VC) in the absence of catalyst, reported in Example 1 of the present

application, more than 95% of VC was converted after 1 hour of reaction. Selectivities were 59% of 1-chloro-1-fluoroethane (151a), less than 1% of 1,1-dichloroethane (152a), 5% of 1,1-dichloroethane (11DCE) and 35% of heavies. It can be added that a complete VC conversion is obtained after 2 hours.

In a test carried out with vinylidene chloride (VC2) in conditions similar to those of Example 1, 6 hours of reaction were needed to reach a 99% VC2 conversion. Selectivities were 91% of 1,1-dichloro-1-fluoroethane and only 5% of heavies.

In the test carried out with vinyl chloride (VC) in the presence of a catalyst, reported in Example 4 of the present application, selectivities were 12% of 1-chloro-1-fluoroethane (151a), 4% of 1,1-dichloroethane (152a), 59% of 1,1-dichloroethane (11DCE) and 25% of heavies.

In a test carried out with vinylidene chloride (VC2) in conditions similar to those of Example 4, selectivities were 54% of 1,1-dichloro-1-fluoroethane, 41% of 1-chloro-1,1-difluoroethane and only 0.7% of heavies. Example 1(R) of Walraevens et al. (column 5, lines 15-64) reports very similar results obtained in analogous conditions.

The comparison of these additional examples with Examples 1 and 4 of the present application clearly evidences that, in similar conditions:

(1) vinyl chloride is highly more reactive than vinylidene chloride;

(2) more "heavies" are formed in a system starting from vinyl chloride than from vinylidene chloride;

(3) parallel reactions with ClH are far more important in a system starting from vinyl chloride (production of 1,1-dichloroethane) than in the system starting from vinylidene chloride (very limited formation of 1,1,1-trichloroethane).

Declarant therefore respectfully submits that it is clear that the reactivity of vinyl chlorides is **not** analogous to the reactivity of vinylidene chloride, and that the products obtained when vinylidene chloride is replaced by vinyl chloride in a given process are not necessarily those in which a fluorine group replaces one chloro group, as asserted by the Examiner. Declarant also respectfully submits that in view of the above experiments, there is **no reasonable expectation** of obtaining a known useful product with high selectivity when replacing the vinylidene chloride starting material by vinyl chloride, and thus a person of ordinary skill in the art would have had **no motivation** to make the modifications suggested by the Examiner. Furthermore, the process of claim 11, using solvents not even

disclosed by Walraevens, could not possibly have been obvious in view of the Walraevens disclosure.

I declare, as provided by Title 28, United States Code, Section 1746, (Manual of Patent Examining Procedure, Section 602) under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 17 day of March, 1995.

Francine Janssens

Francine JANSSENS

3 corrections on p. 2